



Daniel F. Caruso  
Chairman

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

October 26, 2007

TO: Parties and Intervenors

FROM: S. Derek Phelps, Executive Director

RE: **DOCKET NO. 334** – Sprint Nextel Corporation application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at 186 Black Rock Turnpike, Redding, Connecticut.

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By its Decision and Order dated October 16, 2007, the Connecticut Siting Council granted a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at 186 Black Rock Turnpike, Redding, Connecticut.

Enclosed are the Council's Findings of Fact, Opinion, and Decision and Order.

SDP/MP/laf

Enclosures (3)

c: State Documents Librarian

<b>DOCKET NO. 334</b> – Sprint Nextel Corporation application for	}	Connecticut
a Certificate of Environmental Compatibility and Public Need	}	
for the construction, maintenance and operation of a wireless	}	Siting
telecommunications facility at 186 Black Rock Turnpike,	}	Council
Redding, Connecticut.	}	
		October 16, 2007

**Findings of Fact**  
**Introduction**

1. Sprint Nextel Corporation (Sprint) in accordance with provisions of Connecticut General Statutes (CGS) § 16-50g through 16-50aa, applied to the Connecticut Siting Council (Council) on April 3, 2007 for the construction, operation, and maintenance of a wireless telecommunications facility at 186 Black Rock Turnpike, Redding, Connecticut. The facility would replace an existing 75-foot lattice tower at the site. (Sprint 1, p.3)
2. Sprint Nextel Corporation is a Delaware corporation. Sprint's principal business offices are located in Mahwah, New Jersey. Sprint is licensed by the Federal Communication's Commission (FCC) in many major trading areas in the United States, including Connecticut. (Sprint 1, pp. 3)
3. The party in this proceeding is the applicant. The intervenor in this proceeding is Cellco Partnership d/b/a Verizon Wireless (Verizon Wireless). (Transcript 1- 3:10 p.m. [Tr. 1], pp. 5-6)
4. The purpose of the proposed facility is to provide service to coverage gaps identified by Sprint on Route 58 and surrounding areas in Redding. (Sprint 1, p. 5)
5. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on August 1, 2007, beginning at 3:00 p.m. and continuing at 7:00 p.m. at the Redding Community Center, 37 Lonetown Road, Redding, Connecticut. (Council's Hearing Notice dated June 18, 2007; Tr. 1, p. 3; Transcript 2 – 7:00 p.m. [Tr. 2], p. 3)
6. The Council and its staff conducted an inspection of the proposed site on August 1, 2007, beginning at 2:00 p.m. During the field inspection, the applicant flew a red balloon at proposed site to simulate the height of the proposed tower. Weather conditions were favorable with little to no breeze in the morning and light winds after midday. Visibility was good with a little haze. One balloon was lost approximately 11:45 am when it was blown into the existing tower by the wind, but it went back up within 15 minutes. The hours of the balloon flight were 7:45 am to 7:00 pm. (Tr. 1, pp. 16-17)
7. Pursuant to CGS § 16-50l (b), public notice of the application was published in Danbury News Times on February 14 and 15, 2007 and the Redding Pilot on February 15, 2007. (Sprint 1, p. 4)
8. Pursuant to CGS § 16-50l(b), notice of the application was provided to all abutting property owners by certified mail. All return receipts were received. (Sprint 1, p. 4)

9. Pursuant to CGS § 16-501 (b), Sprint provided notice to all federal, state and local officials and agencies listed therein. (Sprint 1, Tab 5)
10. Sprint posted a sign in front of the Redding Fire Department on July 16, 2007. The sign contained the date and time of the public hearing and application information. (Tr. 1, p. 18)

#### **State Agency Comment**

11. Pursuant to General Statutes § 16-50j (h), on June 18, 2007 and August 2, 2007, the following State agencies were solicited by the Council to submit written comments regarding the proposed facility; Department of Environmental Protection (DEP), Department of Public Health (DPH), Council on Environmental Quality (CEQ), Department of Public Utility Control (DPUC), Office of Policy and Management (OPM), Department of Economic and Community Development (DECD), and the Department of Transportation (DOT). (Record)
12. The Council received a response from the DOT's Bureau of Engineering and Highway Operations on July 24, 2007 with no comments on this proposal. (DOT Comments dated July 24, 2007)
13. DPH responded with comments that are reflected in Finding of Fact #66. (DPH Comments dated July 20, 2007)
14. The following agencies did not respond with comment on the application: DEP, CEQ, DPUC, OPM, and the DECD. (Record)

#### **Municipal Consultation**

15. Sprint notified the Town of Redding (Town) of the proposal on December 13, 2006 by sending a technical report to First Selectman Natalie T. Ketcham. (Sprint 1, p. 9)
16. On November 8, 2006, prior to submitting its 60-day notice, Sprint's consultant Vanasse Hangen Brustlin Inc. (VHB) sent the Town, the Redding Historical Society and Mr. Charlie Couch, the Town Historian, a tower construction notification letter pursuant to the National Historic Preservation Act. In its letter, VHB asked for comments regarding the proposed tower's effect upon historic properties in the area. VHB did not receive any comments from the Redding Historical Society or Mr. Couch. (Sprint 1, p. 9)
17. On November 25, 2006, Municipal Historian/Archaeologist Kathleen von Jena requested that VHB perform an archaeological reconnaissance survey and a viewshed analysis. In response, on December 11, 2006, VHB provided Ms. von Jena with its original submission to Dr. David Poirier at the State Historic Preservation Office and Dr. Poirier's letter indicating no effect on historic or archaeological resources. (Sprint 1, p. 9; Tab 15)
18. By letter dated November 30, 2007, the Redding Planning Commission (Commission) concurred with Kathleen von Jena's requests and hoped that her recommendations would be followed. (Sprint 1, Tab 8)



19. The Commission does not recommend a flag pole design because it would be redundant due to an existing flag pole at the site. (Sprint 1, Tab 8)
20. At the end of December, after having received the 60-day notice from Sprint's attorney, First Selectman Ketcham requested that VHB conduct a second Visual Resource Evaluation Report (Report) during "leaf off" conditions. On February 20, 2007 Sprint's attorney responded and suggested that a second visual evaluation was not necessary because the Report was prepared by VHB in late October 2006, at the end of the fall season and after a few severe storms, which already constituted "leaf-off" conditions. (Sprint 1, pp. 9-10)
21. On March 28, 2007, VHB received an email from First Selectman Ketcham indicating that because the State Historic Preservation Office had already commented on the proposal, the Town had no further comments. (Sprint 1, p. 10)
22. Sprint would provide space on the tower for the Town's emergency communications needs at no cost. The Town has expressed an interest in installing its fire and police antennas at the top of the proposed tower. (Sprint 1, p. 6; Tr. 1, pp. 8, 25)

#### **Public Need for Service**

23. In 1996, the United States Congress recognized a nationwide need for high quality wireless telecommunications services, including cellular telephone service. Through the Federal Telecommunications Act of 1996, Congress seeks to promote competition, encourage technical innovations, and foster lower prices for telecommunications services. (Council Administrative Notice Item No. 7)
24. In issuing cellular licenses, the Federal government has preempted the determination of public need for cellular service by the states, and has established design standards to ensure technical integrity and nationwide compatibility among all systems. Sprint is licensed by the FCC to provide personal wireless communication service to Fairfield County, Connecticut. (Council Administrative Notice Item No. 7; Sprint 1, p. 3)
25. The Telecommunications Act of 1996 prohibits local and state entities from discriminating among providers of functionally equivalent services. (Council Administrative Notice Item No. 7)
26. The Telecommunications Act of 1996, a Federal law passed by the United States Congress, prohibits any state or local entity from regulating telecommunications towers on the basis of the environmental effects of radio frequency emissions to the extent that such towers and equipment comply with FCC's regulations concerning such emissions. This Act also blocks the Council from prohibiting or acting with the effect of prohibiting the provision of personal wireless service. (Council Administrative Notice Item No. 7)
27. In an effort to ensure the benefits of wireless technologies to all Americans, Congress enacted the Wireless Communications and Public Safety Act of 1999 (the 911 Act). The purpose of this legislation was to promote public safety through the deployment of a seamless, nationwide emergency communications infrastructure that includes wireless communications services. (Sprint 1, p. 6)



28. Sprint's facility would be in compliance with the requirements of the 911 Act. (Sprint 1, p. 6)

#### Site Selection

29. Sprint established a search ring in August 2000 due to a critical coverage gap in the vicinity of Black Rock Turnpike in Redding. (Sprint 1, p. 13; Tr. 1, p. 13)
30. In this low density rural area, Sprint did not have many existing structures to investigate. The four existing structures that Sprint did investigate were the following:

Location Considered	Suitability
Redding Fire Department at 186 Black Rock Turnpike	Current Candidate
First Church of Christ, Congregational at 25 Cross Highway	Does not provide adequate coverage along Route 58
Flagpole at Black Rock Turnpike	Does not provide adequate coverage south of the site along Route 58
Saint Patrick's Roman Catholic Church	Provides very little additional coverage to Route 58

(Sprint 1, p. 8)

31. Sprint is currently at the 75-foot level of the existing 75-foot lattice tower at the Redding Fire Department at 186 Black Rock Turnpike. This does not provide adequate Code Division Multiple Access (CDMA) coverage at its current height. However, with the proposed new tower at a height of 120 feet, Sprint's CDMA coverage objectives would be met. (Sprint 1, pp. 7-8)
32. Sprint did not investigate any raw land parcels in the area because Sprint believes that a replacement tower would have less impact than a monopole built on raw land at a different location. (Sprint 1, p. 8)
33. Sprint also considered utilizing the existing CL&P structures on the subject property with height extensions in order to meet its coverage objectives. However, CL&P's right of way in this area does not permit the installation of telephone and telecommunications equipment within the easement area. (Tr. 1, p. 25)
34. Microcells and repeaters are not viable technological alternatives for providing coverage to the identified coverage gap. Microcells and repeaters are low power sites that are limited in coverage and capacity. The coverage gap in the Redding area is significant. Therefore, technologies such as repeaters and microcells are not viable options. (Sprint 1, pp. 7-8)

#### Site Description

35. The proposed site is located on a 0.62-acre parcel at 186 Black Rock Turnpike, Redding. The parcel, owned by Redding Fire District 1, is currently occupied by the Redding Firehouse, an existing driveway/parking area, and a 75-foot lattice tower. Redding Fire District 1 would also be owner of the proposed tower. The proposed site location is depicted on Figure 1. (Sprint 1, p. 11; Tr. 1, p. 43)

36. The property is zoned residential, R-2. The Town's zoning regulations permit telecommunication towers in a residential zone, subject to issuance of a Special Permit. (Sprint 1c, Town of Redding Zoning Regulations)
37. Land use in the surrounding area is low-density residential parcels. Topography in this area is generally characterized by rolling hills that range in elevation from approximately 350 feet above mean sea level (amsl) along the banks of the Aspetuck River east of Valley Road to approximately 800 feet amsl. (Sprint 1, pp. 10-11)
38. The tower site is located directly behind the fire department building at an elevation of 643 feet above mean sea level (amsl). (Sprint 1, Tab 10)
39. The proposed facility would consist of a 120-foot monopole within a 35-foot by 65-foot fenced compound. The tower would be designed to support a total of four levels of antennas with a 10-foot center-to-center vertical separation of antennas. The tower would be constructed of galvanized steel that would weather to a non-reflective gray finish. (Sprint 1, p. 3, 12; Sprint 1, Tab 10)
40. The tower would be constructed in accordance with the American National Standards Institute TIA/EIA-222-F "Structural Standards for Steel Antenna Towers and Antenna Support Structures". (Sprint 1, p. 12)
41. The foundation would extend approximately 12 to 18 inches above grade. Thus, with a 120-foot monopole, the top of the tower would have a maximum height of approximately 121-foot 6-inches above ground level (agl). (Tr. 1, p. 24)
42. The Town is interested in locating three antennas at the top of the tower. (Tr. 1, p. 18 and 22).
43. Sprint originally proposed to center its antennas at the top of tower: 121-foot 6-inch agl. However, with the Town seeking to install its antennas at that height, Sprint would attach its twelve antennas to a triangular platform at a centerline height of approximately 119 feet agl. The top of Sprint's antennas would be flush with the top of the tower at approximately 121-foot 6-inches agl. (Tr. 1, pp. 18-19, 21, 24)
44. Sprint originally considered attaching its antennas with side-arm mounts (T-arms). However, with the addition of Town antennas, Sprint would require a platform mount. The platform mount is structurally more stable when municipal antennas are also added. (Tr. 1, pp. 22, 24)
45. Attaching its antennas via a platform mount also allows Sprint to separate its iDEN and CDMA antennas at the same level of the tower. (Tr. 1, p. 24)
46. A 35-foot by 65-foot equipment compound would be built near the base of the tower. It would be enclosed by a six-foot high chain link fence. The compound could accommodate a total of four carriers. Sprint would install an 11-foot 6-inch equipment shelter in the compound. (Sprint 1, Tab 10; Tr. 1, p. 51)



47. Sprint originally proposed one foot of barbed wire on top of the six-foot fence, but would consult with the Town and the fire department on this issue. (Tr. 1, pp. 47-48)
48. Although Verizon Wireless originally proposed installing 12 antennas panel antennas at the 110-foot level (111-foot 6-inch above ground level) of the proposed facility, Verizon Wireless would be willing to install a low profile platform or T-arm mounts at this site and lower its antennas by two and half feet in order to accommodate the Town's request to place antennas on the top of the tower. (Verizon Wireless 2, responses 2 and 10; Tr. 1, pp. 18-24)
49. Verizon Wireless would install a 12-foot by 30-foot equipment shelter within the proposed compound. This shelter would contain a backup generator. (Tr. 1, pp. 57-58)
50. Omnipoint Communications, Inc. a/k/a T-Mobile (T-Mobile) did not participate in this proceeding, but informed the Council of its interest in co-locating at this facility in the future by letter dated July 20, 2007. (T-Mobile letter dated July 20, 2007; Tr. 1, p. 25)
51. Sprint's battery backup would last approximately four hours. Sprint might also be able to connect to the fire department's existing 75-kW backup generator. (Tr. 1, pp. 36-37)
52. Development of the site would require approximately 100 square feet of fill. (Sprint 2, response 10)
53. Access to the tower site would begin from Black Rock Turnpike and go through the existing paved parking lot in front of, and to the east of, the firehouse. (Sprint 1, p. 11)
54. There is an existing utility pole that feeds both the firehouse and the existing Sprint equipment on the south end of the property. Sprint would use the same pole, and run its utilities underground to the rear of the fire department building to reach the tower site. (Sprint 1, p. 27)
55. Development of the site would not require blasting. (Sprint 2, response 12)
56. The tower setback radius would extend beyond the boundaries of the Redding Ridge Fire District and would overlap Mayo Property to the north and east, the Ridge Cemetery Property to the south, and Black Rock Turnpike to the west. (Sprint 1, Tab 10)
57. Sprint is willing to engineer a break point on the monopole so that the tower setback radius would remain on the property of the Redding Ridge Fire District. (Tr. 1, p. 53)
58. There are 10 residences within 1,000 feet of the proposed tower site. The nearest residence is approximately 382 feet southwest of the tower site (Miller/Cabot residence). (Sprint 2, response 9)
59. The estimated construction cost of the proposed facility is:
- |                        |                              |
|------------------------|------------------------------|
| Site Work              | \$ 33,000                    |
| Monopole               | \$ 35,000                    |
| Electrical & Telephone | \$ 30,000                    |
| <u>Foundation</u>      | <u>\$ 30,000</u>             |
| Total                  | \$128,000 (Sprint 1, Tab 11) |

### Environmental Considerations

60. The proposed facility would have no effect upon historic, architectural, or archaeological resources listed on or eligible for the National Register of Historic Places or upon properties of traditional cultural importance to Connecticut's Native American community. (Sprint 1, Tab 7)
61. There are no known existing populations of federal or state endangered or threatened species or state special concern species at the proposed site. (Sprint 1, Tab 7)
62. Vegetation at the site consists of mixed deciduous hardwood species interspersed with stands of mature evergreens. The average tree height is 65 feet. Sugar maple, Norway maple, black oak, and red cedar ranging in size from 6 to 12 inches diameter at breast height (dbh) are the predominant species. No trees six inches dbh or greater would be removed to develop the site. (Sprint 1, p. 21 and Tab 10)
63. There are no wetlands or watercourses within the proposed compound area. The nearest wetland is approximately 60 feet east of the compound. Wetland vegetation consists of red maple, green ash, spicebush, skunk cabbage, Japanese barberry, winged euonymus, and tussock sedge. (Sprint 1, p. 17 and Tab 15)
64. The proposed tower is not subject to any Federal Aviation Administration lighting requirements. The nearest airport is Meriden Markham Municipal Airport, approximately 32 miles away. (Sprint 2, response 14)
65. The site is not located within a flood zone. (Sprint 2, response 13)
66. The proposed construction is located within the Hemlocks Reservoir System Watershed Area of the Aspetuck and Saugatuck Reservoirs for the Aquarion Water Company of CT (AWCC). The DPH is concerned about the protection of the sources of public drinking water in this area. The AWCC needs to be contacted prior to any construction and the following Best Management Practices should be followed to ensure the safety of the drinking water supply:
  - a) Coordinate any construction activities with the AWCC.
  - b) Write an emergency response plan for actions to be taken in the event of an accidental fuel or chemical spill that may occur during construction.
  - c) Have spill response equipment available on-site at all times along with personnel trained in the proper use of such equipment.
  - d) Designate a person or persons for emergency response coordination on a 24/7 basis.
  - e) Contact the AWCC immediately in the event of an accidental spill.
  - f) Avoid the cleaning of equipment on the locations of construction due to possible contamination from equipment chemicals.



- g) Avoid any storage of fuel or refueling within the watershed and aquifer protection areas.
- h) Designate one area (away from the source areas) for auto parking, vehicle refueling and routine equipment maintenance. This area should be well away from exposed surfaces or storm drains.
- i) Perform all major equipment repairs off site.
- j) Keep pollutants off of exposed surfaces.
- k) Do not bury stumps or construction debris on the job site.
- l) Place sediment fences and hay bales strategically and inspect and maintain them to prevent sedimentation and erosion.
- m) Inspect and maintain temporary storm water ponds and basins routinely.
- n) Have additional sediment fences and hay bales available for use as needed to prevent runoff in the event that unexpected conditions occur.
- o) Protect exposed stockpiles of soil to prevent runoff.
- p) Use as little water as possible for dust control.
- q) Clean up leaks, drips and other spills immediately to prevent or minimize soil contamination.
- r) Never hose down "dirty" pavement or surfaces where materials have spilled. Use dry cleanup methods whenever possible.
- s) Perform any blasting only with careful consideration to impacts to the area, including possible effects to ground water which could affect drinking water quality and quantity.
- t) Remove paints, paint products and other hazardous materials from the site during non-work hours or otherwise store these materials in a secure area to prevent vandalism.
- u) Place covered trashcans and recycling receptacles around the site. Cover and maintain dumpsters, check frequently for leaks, and never clean a dumpster by hosing it down on site.
- v) Avoid development of slopes at 15 percent or greater. If this cannot be avoided at this project, a separate environmental consultant should be on site to ensure proper erosion and sedimentation controls are in place. This consultant would be responsible to report to the AWCC so water quality issues are avoided. (DPH Comments dated July 20, 2007)

67. Sprint is willing to comply with the DPH's recommendations. (Tr. 1, 27)

68. The maximum power density from the radio frequency emissions of Sprint's proposed iDEN (cellular) antennas would be approximately  $0.030 \text{ mW/cm}^2$ , or 5.37% of the standard for Maximum Permissible Exposure, as adopted by the FCC, at the base of the proposed tower. For Sprint's proposed CDMA (PCS) antennas, the maximum power density would be approximately  $0.0777 \text{ mW/cm}^2$  or 7.77% of the standard. For the proposed Redding Fire Department antennas, the maximum power density would be approximately  $0.0024 \text{ mW/cm}^2$  or 1.22% of the standard. For the proposed Verizon Wireless antennas, the maximum power density would be approximately 12.5% of the standard at the 110-foot level of the tower. With the relocation of the Town of Redding's antennas from the 80-foot level of the tower to the top of the tower and the 2.5-foot reduction in the location of the Sprint and Verizon Wireless antennas to accommodate this change, the total maximum power density for the site has been reduced slightly. The total maximum power density for the site would be less than 30% of the standard. (Sprint 1, Tab 14; Tr. 1, pp. 52-53)
69. This calculation was based on methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997) that assumes all antennas would be pointed at the base of the tower and all channels would be operating simultaneously. (Sprint 1, Tab 14)

#### Visibility

70. The proposed tower would be visible year-round from approximately 6 acres within a two-mile radius of the site (refer to Figure 12). The tower would be seasonally visible from approximately 51 acres within a two-mile radius of the site. (Sprint 1, p. 21)
71. Visibility of the proposed tower from roads within a two-mile radius of the site is presented in the table below:

Road	Length of Road Visibility (Seasonal)	Length of Road Visibility (Year-round)	Nearest Distance with Visibility to Site A
Route 58	0.4 miles	0.1 miles	0 miles
Silversmith Lane	0.05 miles	-	0.04 miles northwest
Meekers Hill Road	0.1 miles	-	0.26 miles southeast

(Sprint 1, Tab 12)



72. Visibility of the proposed tower from specific locations within a two-mile radius of the site is presented in the table below:

Location	Visible	Approx. Portion of Tower Visible	Approx. Distance to Tower
9 Turney Road	No	None	0.34 miles south
3 Meeker Hill Road	No	None	0.27 miles north
169 Black Road Turnpike – Saint Patricks Church	Yes	15 feet – above trees	0.13 miles north
170 Black Rock Turnpike	No	None	0.15 miles north
161 Black Rock Turnpike	Yes	20 feet – obstructed through trees	0.22 miles north
133 Black Rock Turnpike	No	None	0.47 miles north
140 Black Rock Turnpike	No	None	0.47 miles north
176 Cross Highway	No	None	0.36 miles southeast
238 Black Rock Turnpike	No	None	0.40 miles south
180 Cross Highway – Christ Episcopal Church	No	None	0.32 miles southeast
214 Black Rock Turnpike	No	None	0.20 miles southeast
211 Black Rock Turnpike	No	None	0.17 miles southeast
205 Black Rock Turnpike	No	None	0.10 miles south

(Sprint, Tab 8)

73. The majority of the visibility of the proposed tower occurs along Black Rock Turnpike within the immediate vicinity of the host property. Areas of year-round visibility along Black Rock Turnpike extend approximately 0.18 miles to the south of the proposed facility and roughly 200 feet to the north. Generally, these areas currently feature views of the existing 75-foot tall lattice tower on the subject property. (Sprint 1, Tab 13)
74. Approximately 9 residences would have at least partial year round views of the facility. Generally, areas of seasonal visibility are expected to extend approximately 0.14 miles north of the subject property and roughly 0.28 miles to the south. Approximately 12 residences would have limited seasonal views of the proposed facility. (Sprint 1, p. 22)
75. There are no views of the tower expected from any state or local scenic roads. (Tr. 1, p. 27)
76. No landscaping is proposed. (Sprint 1, Tab 10)

**Sprint's Existing and Proposed Wireless Coverage**

77. Sprint transmits in the 1962.5 MHz and 851 MHz frequency bands and has a signal-level service design of -92 dBm for this area, sufficient for in-vehicle coverage. The signal-level threshold for in-building coverage is -87 dBm. (Sprint 2, responses 3 and 4; Sprint 1, p. 13 and Tab 14)
78. Sprint's existing signal strength in the area to be covered by this proposed facility is below -92 dBm. The current use of the existing 75-foot tower at 75 feet is inadequate. (Sprint 2, response 2; Sprint 1, p.7)
79. Sprint is currently experiencing 4.9 percent dropped calls in the area to be covered by the proposed facility. This exceeds Sprint's standard for dropped calls of 2 percent or less. (Sprint 2, response 5)
80. Sprint's existing coverage covers approximately 0.5 miles along Route 58. Sprint's existing coverage gap is approximately 12 miles. The proposed facility would cover a total of 2 miles of this gap. (Sprint 2, responses 1 and 8)
81. Sprint's minimum height to meet coverage design objectives is 119 feet agl. (Sprint 1, p. 2; Tr. 1, p. 24)
82. The existing adjacent Sprint site that would interact with the proposed site is presented in the table below. This site does not provide adequate coverage to the target service area.

Location	Antenna Height agl	Approximate Distance from Site
North Street, Easton	177 feet - monopole	1.8 miles east

(Sprint 2, response 6)

83. The proposed tower would provide approximately 3.94 square miles of improved coverage. (Sprint 2, response 7)

**Verizon Wireless' Existing and Proposed Wireless Coverage**

84. Verizon Wireless transmits in the 1970-1975 MHz and 869-880 MHz frequency bands and has a signal-level service design of -85 dBm for this area. (Verizon Wireless 2, responses 2 and 3)
85. Verizon Wireless' existing signal strength in the area to be covered by this proposed facility ranges from -85 dBm to -105 dBm. (Verizon Wireless 2, response 4)
86. Verizon Wireless' existing coverage gap along Route 58 is approximately 9.5 miles at cellular frequencies and 10.6 miles at PCS frequencies. The proposed facility would cover 2.96 miles of this gap at cellular frequencies and 1.81 miles at PCS frequencies. (Verizon Wireless 2, responses 5 and 6)



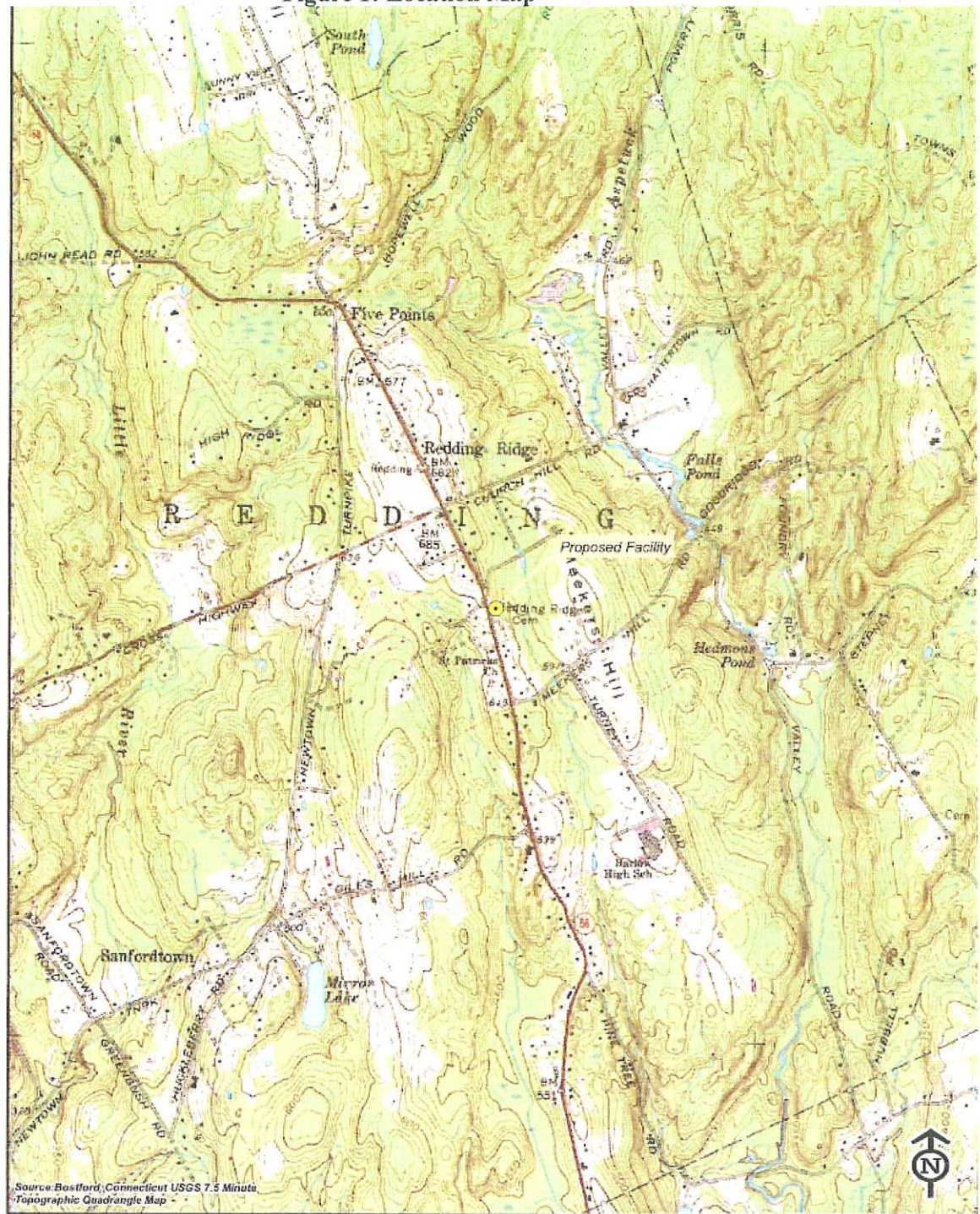
87. Verizon Wireless' minimum height to meet coverage design objectives is 110 feet agl. (Verizon Wireless 2, responses 2 and 9)
88. At higher heights, such as above 120 feet, the increase in coverage for Verizon Wireless would be minimal. (Tr. 1, p. 62)
89. Existing adjacent Verizon Wireless sites that would interact with the proposed site are presented in the table below. Neither one provides adequate coverage to the target service area.

Location	Antenna Height agl	Approximate Distance from Site
North Street, Easton	165 feet - monopole	1.81 miles east
80 Lonetown Road, Redding	90 feet – lattice	1.95 miles east

(Verizon Wireless 2, response 8)

90. Verizon Wireless' cellular antennas would provide 10.4 square miles of improved coverage and the PCS antennas would cover 3.2 square miles of improved coverage. (Sprint 2, response 7)
91. Verizon Wireless could use T-arms or a low-profile platform to provide the desired coverage. Flush-mounted antennas would result in the loss of 1.5 dB of gain. (Tr. 1, p. 57)

Figure 1: Location Map



(Sprint 1, Tab 1)



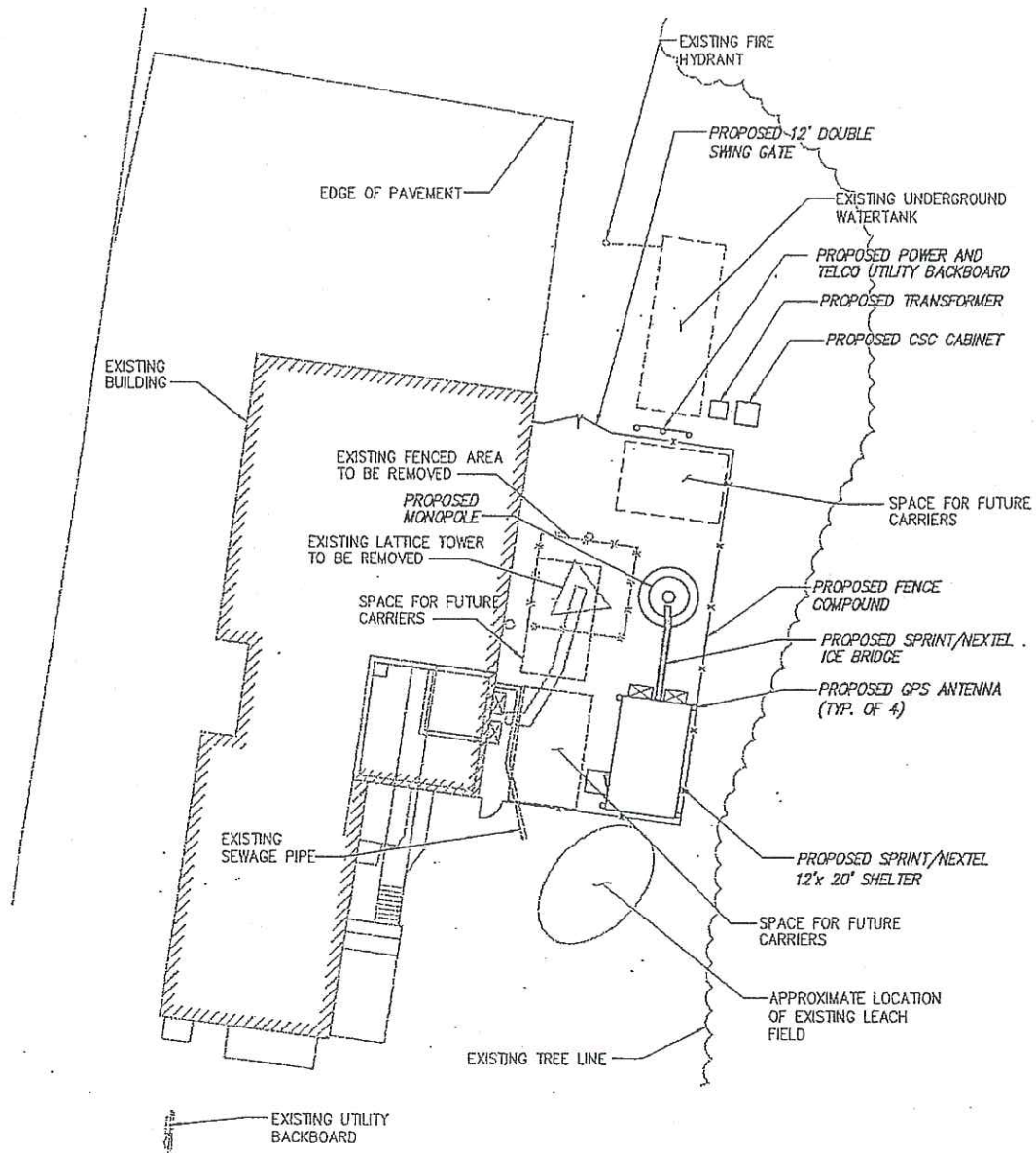
**Figure 2: Aerial Photograph**



(Sprint 1, Tab 1)

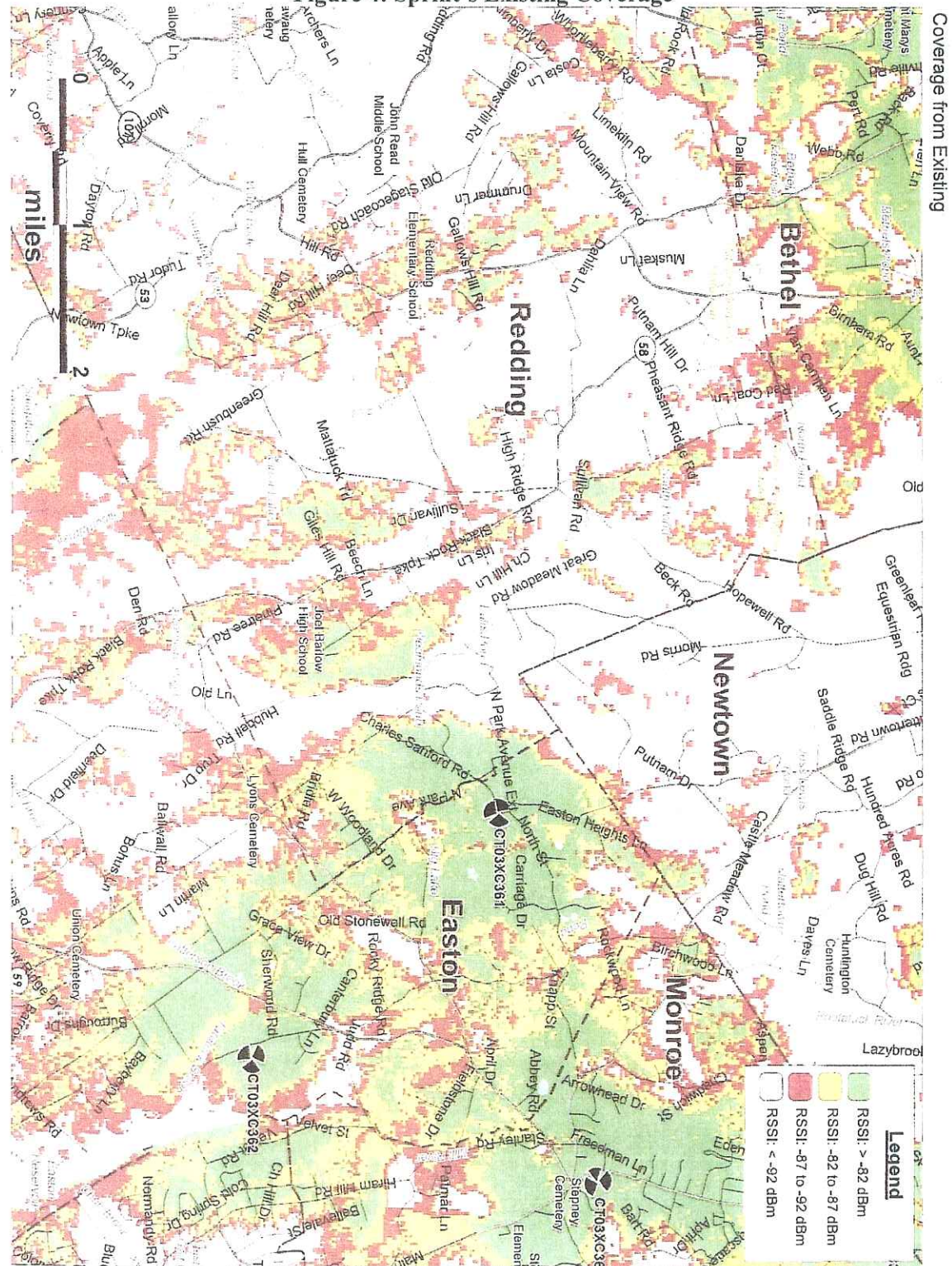


Figure 3: Site Plan



(Sprint 1, Tab 15)

Figure 4: Sprint's Existing Coverage



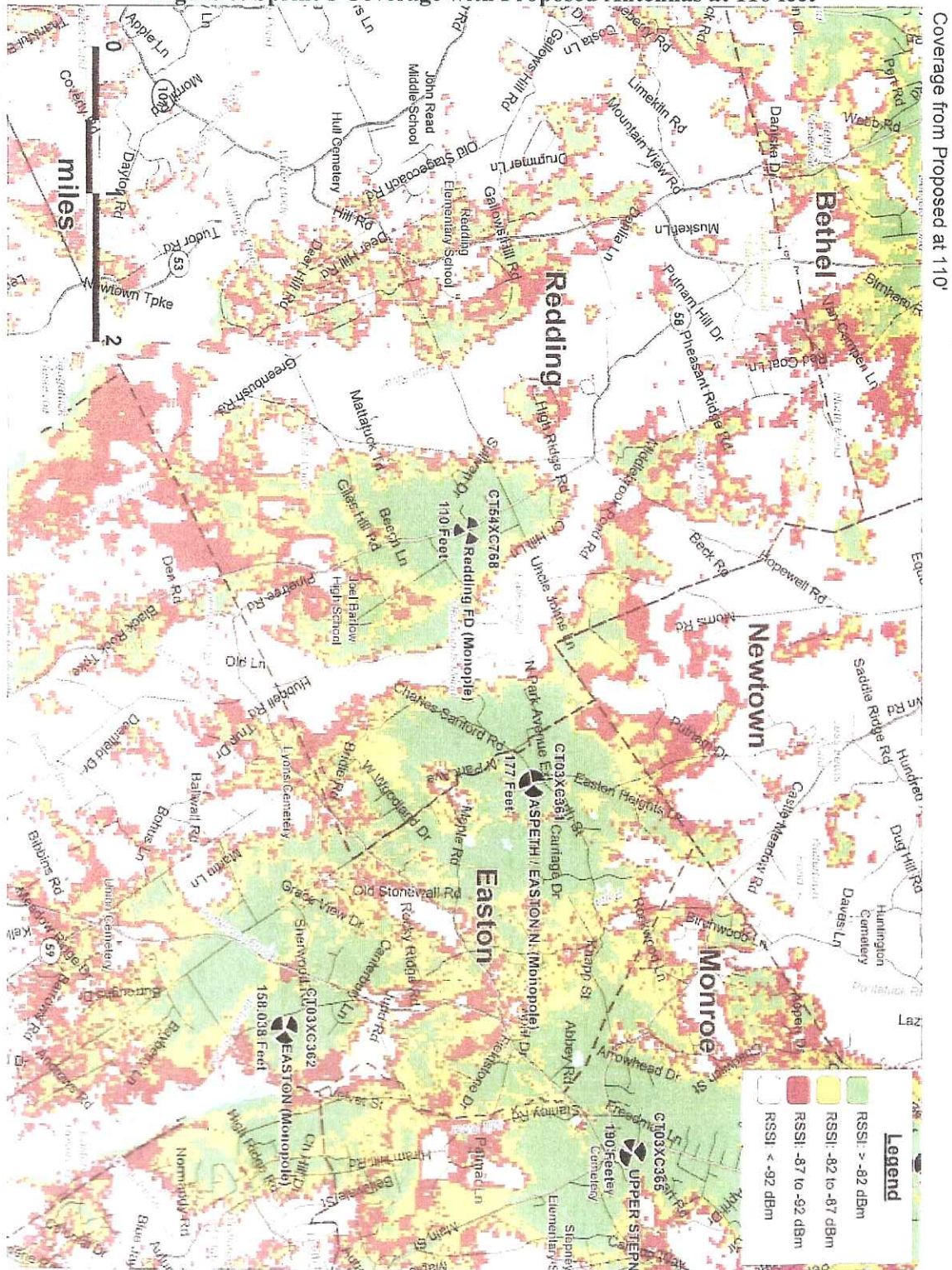
(Sprint 2, response 1)







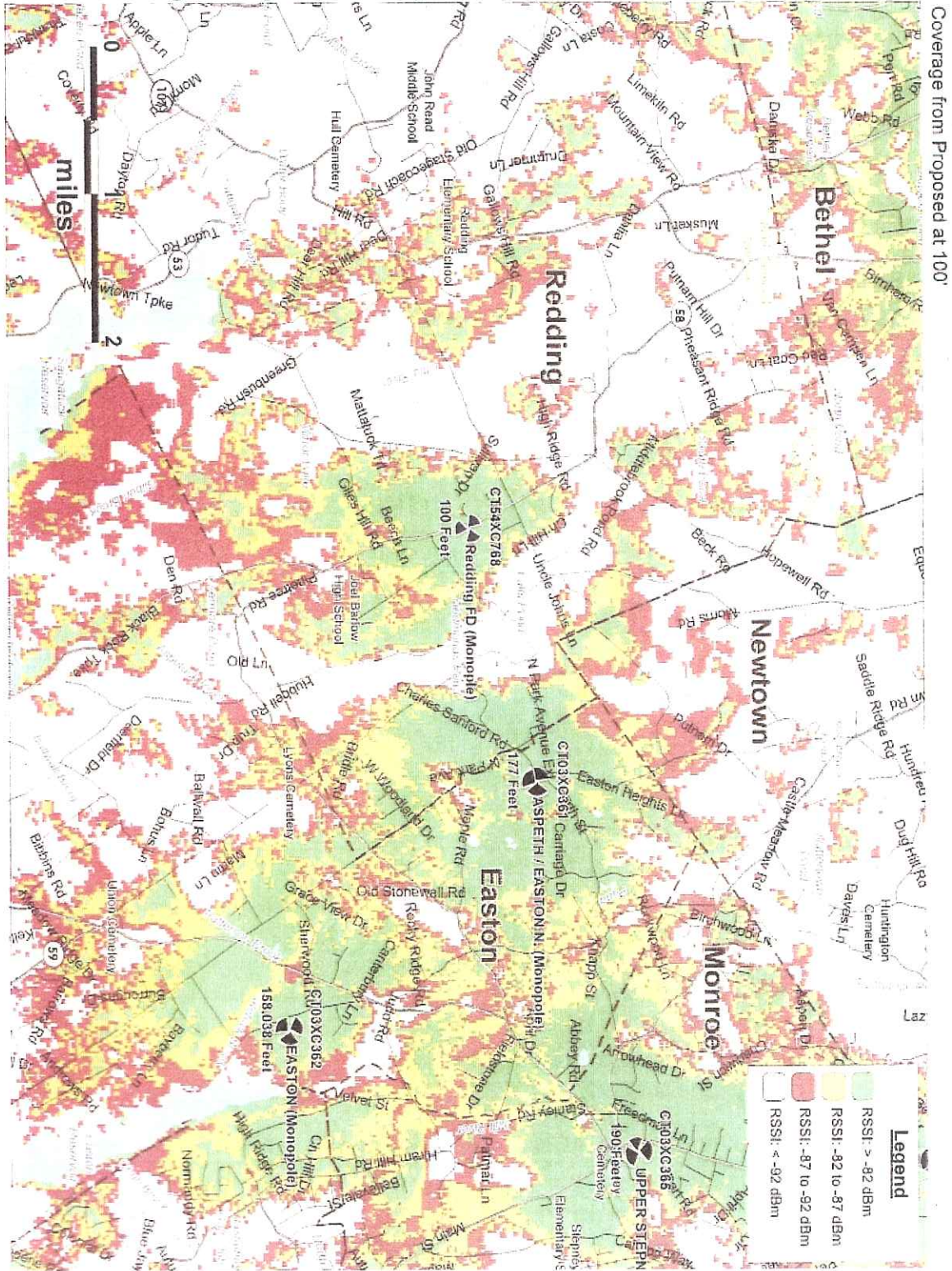
Figure 6: Sprint's Coverage with Proposed Antennas at 110 feet



(Sprint 2, response 1)



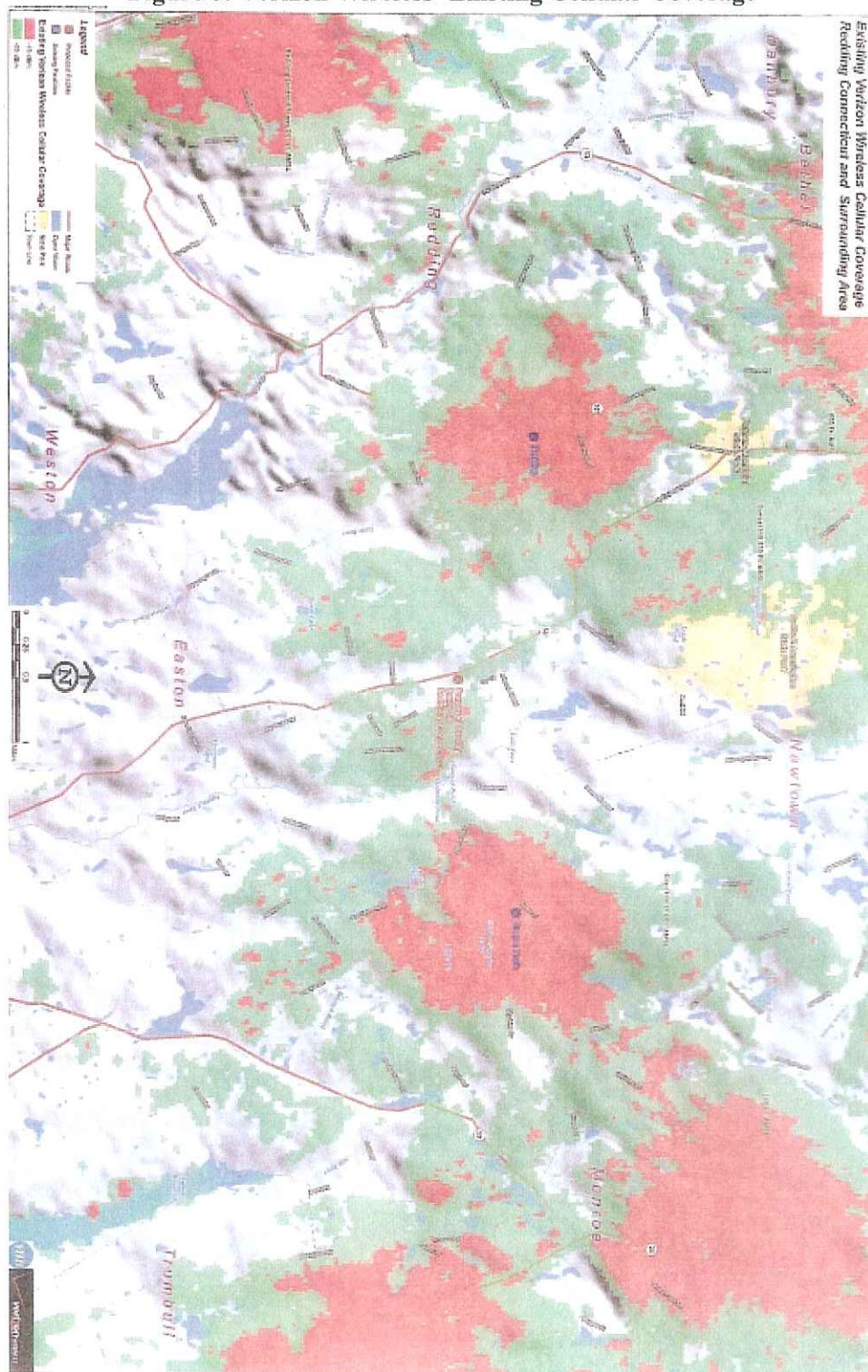
Figure 7: Sprint's Coverage with Proposed Antennas at 100 feet



(Sprint 2, response 1)



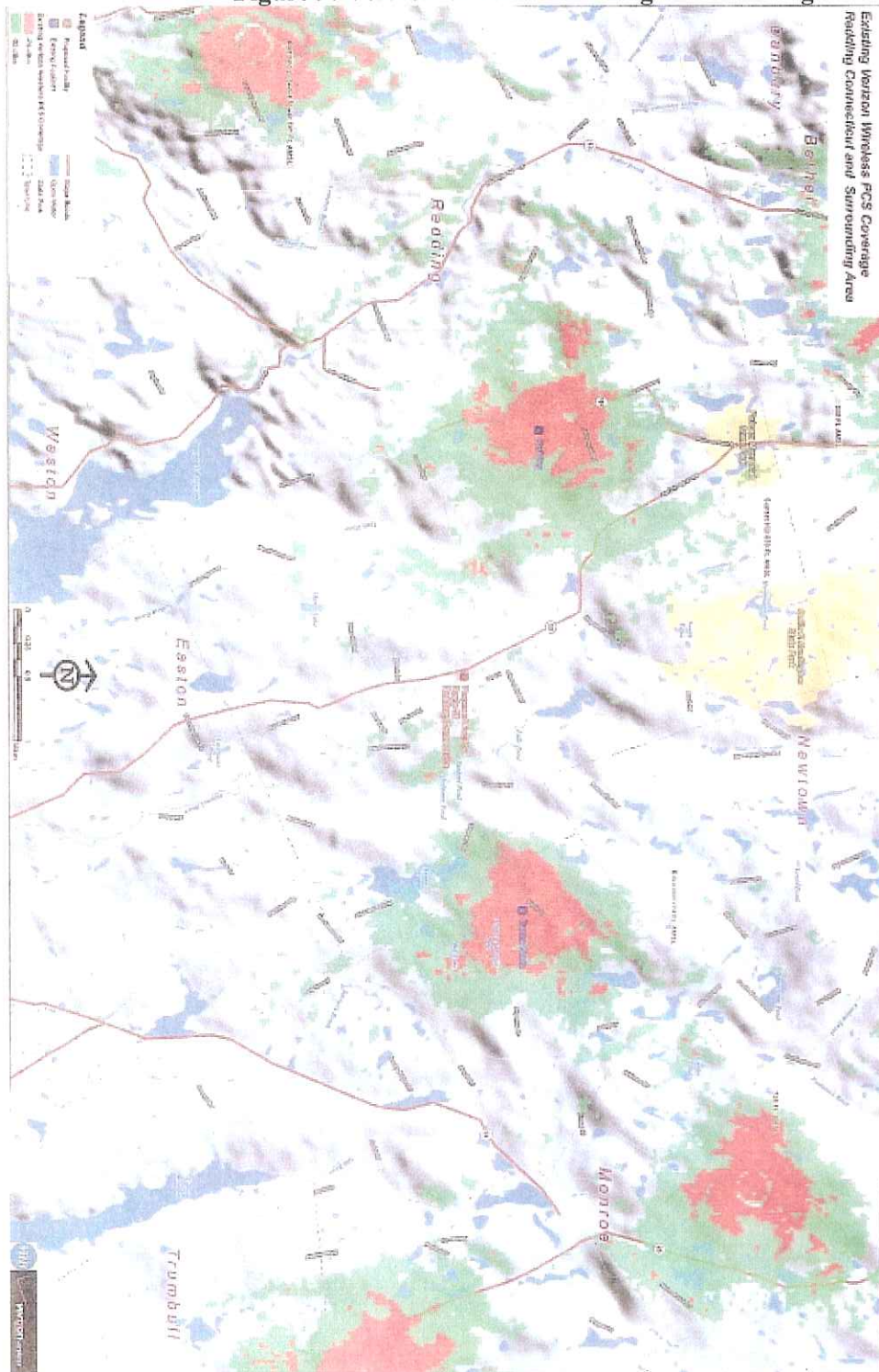
Figure 8: Verizon Wireless' Existing Cellular Coverage



(Verizon 2, response 9)

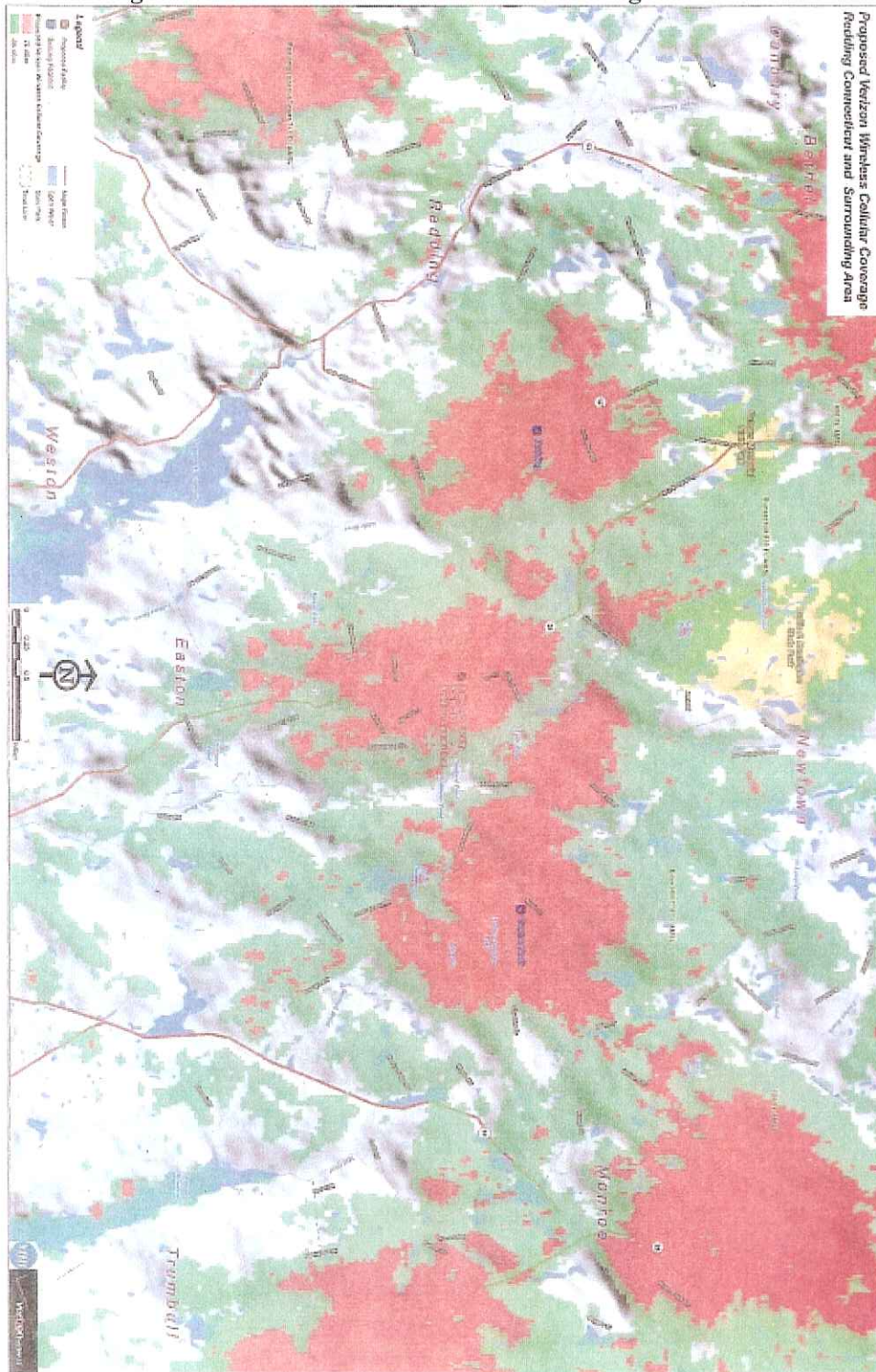


Figure 9: Verizon Wireless' Existing PCS Coverage



(Verizon 2, response 9)

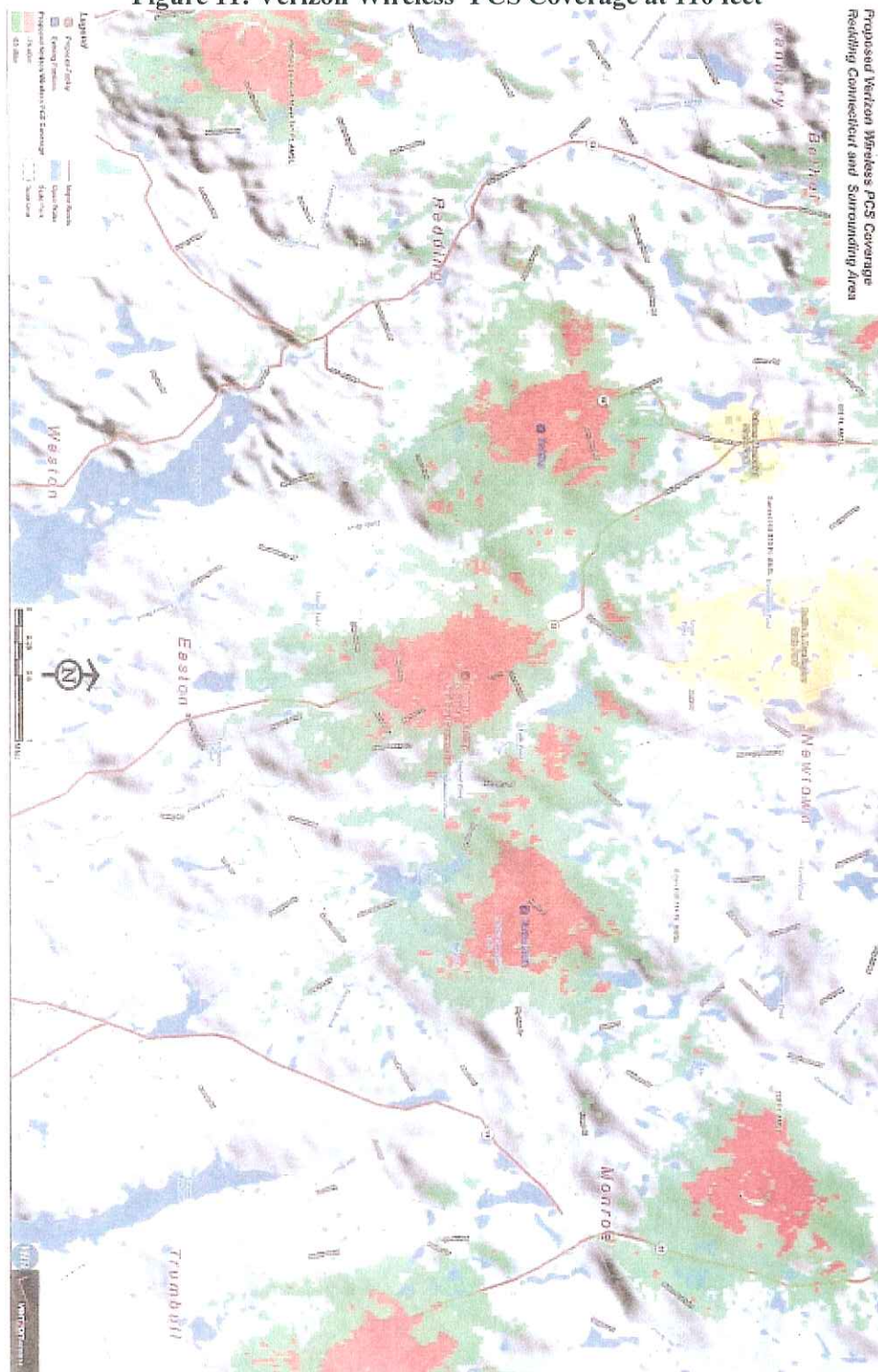
Figure 10: Verizon Wireless' Cellular Coverage at 110 feet



(Verizon 2, response 9)

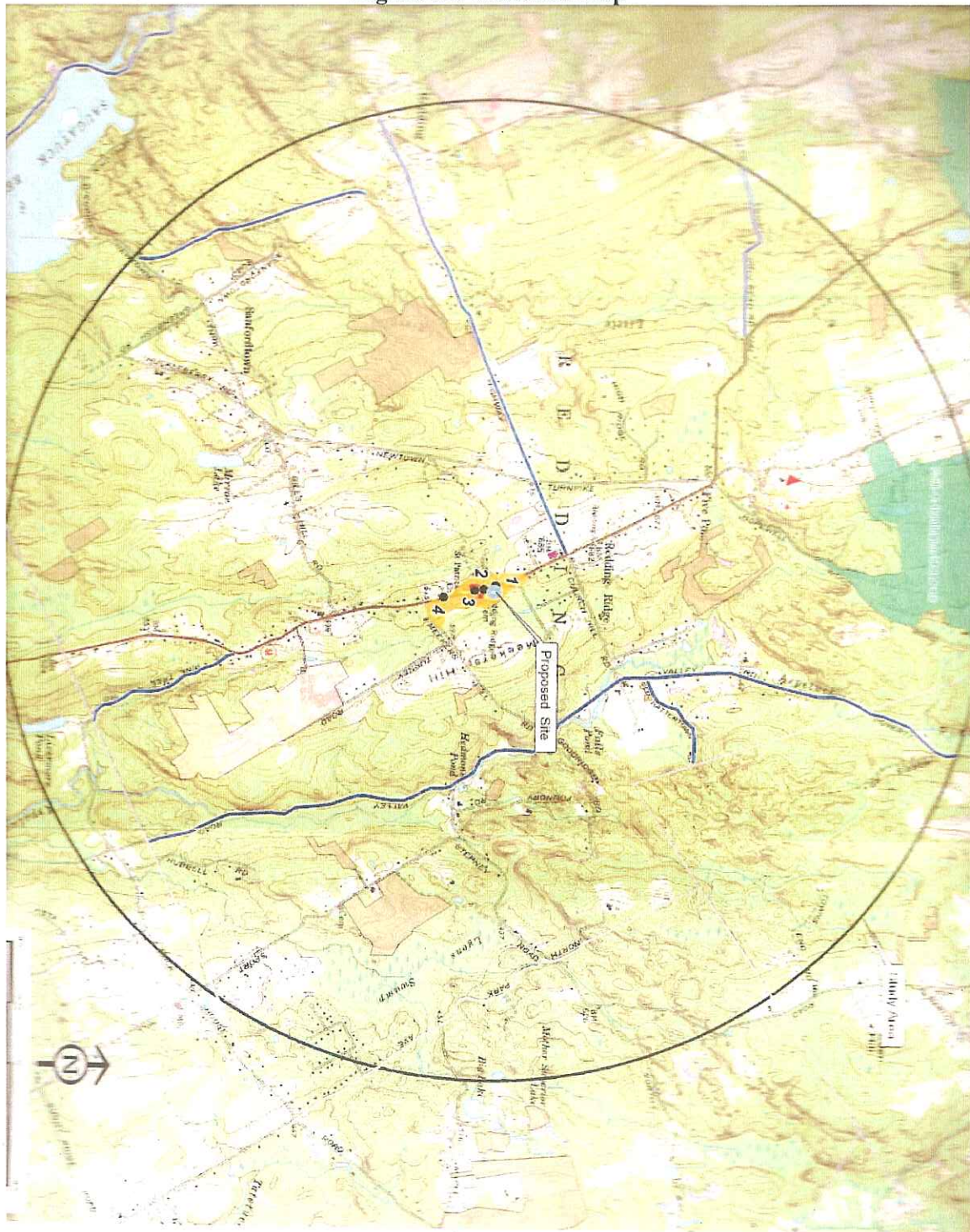


**Figure 11: Verizon Wireless' PCS Coverage at 110 feet**



(Verizon 2, response 9)

Figure 12: Viewshed Map



(Sprint 1, Tab 13)



Figure 13: Viewshed Map Legend

## Proposed Telecommunications Facility CT54XC768 186 Black Rock Turnpike Redding, Connecticut

### NOTE:

- Viewshed analysis conducted using ESRI's Spatial Analyst.
- Proposed Facility height is 120 feet.
- Existing tree canopy height estimated at 65 feet.

### DATA SOURCES:

- 7.5 minute digital elevation model (DEM) with 30 meter resolution produced by the USGS, 1982
- Forest areas derived from 1990 and 2004 digital orthophotos with 1-meter and 0.5-foot pixel resolution, respectively; digitized by VHB, 2006
- Base map comprised of Bethel and Bostford USGS Quadrangle Maps
- Protected properties data layer provided CTDEP, 2003
- Scenic Roads layer derived from available State and Local listings.

Map Compiled October 2006

### Legend



(Sprint 1, Tab 13)

**DOCKET NO. 334** – Sprint Nextel Corporation application for a } Connecticut  
Certificate of Environmental Compatibility and Public Need for }  
the construction, maintenance and operation of a } Siting  
telecommunications facility located at 186 Black Rock Turnpike, }  
Redding, Connecticut. } Council

October 16, 2007

### Opinion

On April 3, 2007, Sprint Nextel Corporation applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance and operation of a wireless telecommunications facility to be located in the Town of Redding, Connecticut. Sprint is seeking to develop a facility on property owned by the Redding Fire District 1. This site contains the Redding Fire Department and an existing 75-foot lattice tower. Sprint seeks to replace this lattice tower with a taller monopole to provide service along Route 58 (Black Rock Turnpike), where it is experiencing substantial coverage gaps. Celco Partnership d/b/a Verizon Wireless (Verizon Wireless) participated as an intervenor in this proceeding to demonstrate their need for this facility.

Sprint proposes to construct a 120-foot monopole to replace the lattice tower and an associated 65-foot by 35-foot compound on a 0.62-acre parcel that contains the Redding Fire District firehouse. The tower foundation would extend approximately 12 to 18 inches above grade. Thus, with a 120-foot monopole, the top of the tower would have a maximum height of 121-feet 6-inches above ground level.

The tower and compound area will be located directly behind the fire department building. No landscaping is proposed. An existing utility pole feeds both the firehouse and the existing Sprint equipment on the south end of the property. Sprint would use the same pole, and run its utilities underground to the rear of the fire department building to reach the tower site. The tower would be designed to support the antennas of three additional carriers.

The tower setback radius would extend beyond the boundaries of the Redding Ridge Fire District and would overlap the Mayo Property to the north and east, the Ridge Cemetery Property to the south, and Black Rock Turnpike to the west. Sprint has indicated that it is possible to design the tower with a break point to ensure that the tower remains within the boundaries of fire department property in the event of a tower failure. Accordingly, the Council will order that the tower be designed with a break point.

Approximately 9 residences would have at least partial year-round views of the facility. Generally, areas of seasonal visibility are expected to extend approximately 0.14 miles north of the subject property and roughly 0.28 miles to the south. Approximately 12 residences would have limited seasonal views of the proposed facility. The majority of the visibility of the proposed tower occurs along Black Rock Turnpike within the immediate vicinity of the host property. Areas of year-round visibility along Black Rock Turnpike extend approximately 0.18 miles to the south of the proposed facility and roughly 200 feet to the north. Generally, these areas currently feature views of the existing 75-foot tall lattice tower on the subject property.

There are no known existing populations of federal or state endangered or threatened species or state special concern species at the proposed site. The nearest wetlands are approximately 60 feet



to the east of the compound. Thus, development of the site would not affect any wetlands or watercourses, vegetation, or any rare, endangered, or special concern species. The proposed facility would have no effect on archaeological or historic resources.

The Council is concerned, however, that the proposed tower is located within the Hemlocks Reservoir System Watershed Area of the Aspetuck and Saugatuck Reservoirs for the Aquarion Water Company of CT. To minimize the risk of contamination of drinking water during construction, the Council will order Sprint to comply with the Connecticut Department of Public Health's Best Management Practices to the extent practicable.

Sprint transmits PCS in the 1950-1965 MHz range and has a signal-level service design of -92 dBm for this area, sufficient for in-vehicle coverage. Presently, Sprint is operating antennas at 75 feet on the existing 75-foot lattice tower. Sprint's existing signal strength in the majority of the area to be covered by this proposed facility is below -92 dBm. Sprint's customers are currently experiencing a high number of dropped calls (over 2 percent), which decreases Sprint's reliability. Sprint's existing coverage gap along Route 58 is approximately 12 miles. The proposed facility would fill 2 miles of this gap. Sprint's minimum height to meet coverage design objectives is 117.5 feet (119 feet above ground level). The proposed tower would provide approximately 3.94 square miles of improved coverage.

Verizon Wireless operates in the 869-880 MHz cellular range and the 1970-1975 MHz PCS range. Verizon Wireless designs its system for a -85 dBm signal level. The existing signal level in the vicinity of the proposed facility ranges from -85 dBm to -105 dBm. Verizon Wireless currently has coverage gaps on Route 58 of 9.5 miles for cellular frequencies and 10.6 miles for PCS frequencies. Verizon Wireless' proposed antennas would cover 2.96 miles of this gap for cellular frequencies and 1.81 miles at PCS frequencies. The Town of Redding is also interested in locating its three antennas at the top of the tower for emergency services.

According to a methodology prescribed by the FCC Office of Engineering and Technology Bulletin No. 65E, Edition 97-01 (August 1997), the combined radio frequency power density levels of all of the antennas proposed to be installed on the tower have been calculated by Council staff to amount to be less than 30% of the FCC's Maximum Permissible Exposure, as measured at the base of the tower. This percentage is well below federal and state standards established for the frequencies used by wireless companies. If federal or state standards change, the Council will require that the tower be brought into compliance with such standards. The Council will require that the power densities be recalculated in the event other carriers add antennas to the tower. The Telecommunications Act of 1996 prohibits any state or local agency from regulating telecommunications towers on the basis of the environmental effects of radio frequency emissions to the extent that such towers and equipment comply with FCC's regulations concerning such emissions.

Based on the record in this proceeding, the Council finds that the effects associated with the construction, operation, and maintenance of the telecommunications facility at the proposed site, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with policies of the State concerning such effects, and are not sufficient reason to deny this application. Therefore, the Council will issue a Certificate for the construction, operation, and maintenance of a 120-foot monopole telecommunications facility at 186 Black Rock Turnpike, Redding, Connecticut.

**DOCKET NO. 334** – Sprint Nextel Corporation application for a }  
Certificate of Environmental Compatibility and Public Need for }  
the construction, maintenance and operation of a wireless }  
telecommunications facility at 186 Black Rock Turnpike, }  
Redding, Connecticut. }

Connecticut

Siting

Council

October 16, 2007

### **Decision and Order**

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Sprint Nextel Corporation, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 186 Black Rock Turnpike, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of Sprint Nextel Corporation and other entities, both public and private, but such tower shall not exceed a height of 121-feet 6-inches above ground level. The height at the top of the Certificate Holder's antennas shall not exceed 121 feet 6-inches above ground level.
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Redding for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
  - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, and landscaping; and
  - b) construction plans for site clearing, grading, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.
3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.



4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Redding public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.
7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed and providing wireless services within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline.
8. Any request for extension of the time period referred to in Condition 7 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Redding. Any proposed modifications to this Decision and Order shall likewise be so served.
9. The Certificate Holder shall engineer a break point on the monopole to ensure that the tower setback radius remains within the property boundaries of the Redding Ridge Fire District.
10. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.
11. The Certificate Holder shall remove any nonfunctioning antenna, and associated antenna mounting equipment, within 60 days of the date the antenna ceased to function.
12. To the extent reasonably feasible, the Certificate Holder shall comply with the Connecticut Department of Public Health's Best Management Practices to protect the drinking water supply.
13. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction and the commencement of site operation.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the published in the Danbury News Times and the Redding Pilot.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

**Applicant**

Sprint Nextel Corporation

**Its Representative**

Thomas J. Regan, Esq.  
Brown Rudnick Berlack Israels LLP  
CityPlace I, 38<sup>th</sup> Floor  
185 Asylum Street  
Hartford, CT 06103-3402  
(860) 509-6522  
(860) 509-6501 fax  
[Tregan@brownrudnick.com](mailto:Tregan@brownrudnick.com)

**Intervenor**

Cellco Partnership d/b/a Verizon Wireless


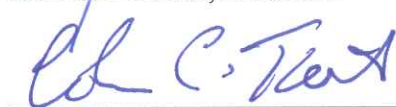
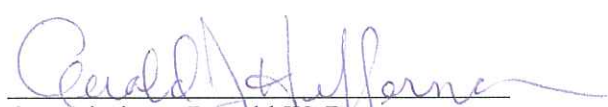
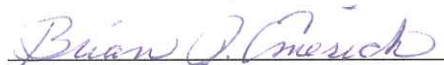
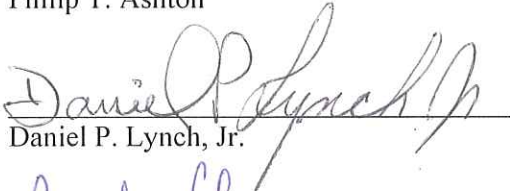
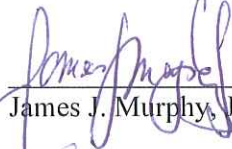

**Its Representative**

Kenneth C. Baldwin, Esq.  
Robinson & Cole LLP  
280 Trumbull Street  
Hartford, CT 06103-3597  
(860) 275-8200  
(860) 275-8299 fax  
[kbaldwin@rc.com](mailto:kbaldwin@rc.com)



## CERTIFICATION

The undersigned members of the Connecticut Siting Council (Council) hereby certify that they have heard this case, or read the record thereof, in **DOCKET NO. 334** – Sprint Nextel Corporation application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at 186 Black Rock Turnpike, Redding, Connecticut, and voted as follows to approve the proposed site, located at 186 Black Rock Turnpike, Redding, Connecticut:

<u>Council Members</u>	<u>Vote Cast</u>
 Daniel F. Caruso, Chairman	Yes
 Colin C. Tait, Vice Chairman	Yes
 Commissioner Donald W. Downes Designee: Gerald J. Heffernan	Yes
 Commissioner Gma McCarthy Designee: Brian J. Emerick	Abstain
_____ Philip T. Ashton	Absent
 Daniel P. Lynch, Jr.	Yes
 James J. Murphy, Jr.	Yes
 Dr. Barbara Currier Bell	Yes
_____ Edward S. Wilensky	Absent

Dated at New Britain, Connecticut, October 16, 2007.

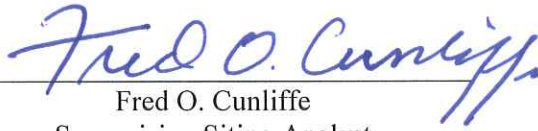
STATE OF CONNECTICUT )

ss. New Britain, Connecticut :

COUNTY OF HARTFORD )

I hereby certify that the foregoing is a true and correct copy of the Findings of Fact, Opinion, and Decision and Order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:



Fred O. Cunliffe  
Supervising Siting Analyst  
Connecticut Siting Council

I certify that a copy of the Findings of Fact, Opinion, and Decision and Order in Docket No. 334 has been forwarded by Certified First Class Return Receipt Requested mail on October 26, 2007, to all parties and intervenors of record as listed on the attached service list, dated June 8, 2007.

ATTEST:



Lisa Fontaine  
Fiscal Administrative Officer  
Connecticut Siting Council



Date: June 8, 2007

Docket No. 334

Page 1 of 1

**LIST OF PARTIES AND INTERVENORS**  
**SERVICE LIST**

<b>Status Granted</b>	<b>Status Holder (name, address &amp; phone number)</b>	<b>Representative (name, address &amp; phone number)</b>
<b>Applicant</b>	Sprint Nextel Corporation	Thomas J. Regan, Esq. Brown Rudnick Berlack Israels LLP CityPlace I, 38 <sup>th</sup> Floor 185 Asylum Street Hartford, CT 06103-3402 (860) 509-6522 (860) 509-6501 fax <a href="mailto:Tregan@brownrudnick.com">Tregan@brownrudnick.com</a>
<b>Intervenor (Granted 06/07/07)</b>	Cellco Partnership d/b/a Verizon Wireless	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 (860) 275-8200 (860) 275-8299 fax <a href="mailto:kbaldwin@rc.com">kbaldwin@rc.com</a>



Daniel F. Caruso  
Chairman

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

October 26, 2007

TO: Classified/Legal Supervisor  
**334070801**  
Danbury News Times  
333 Main Street  
Danbury, CT 06810

Classified/Legal Supervisor  
**334070801**  
Redding Pilot  
P.O. Box 389  
Georgetown, CT 06829

FROM: Lisa A. Fontaine, Fiscal Administrative Officer

RE: **DOCKET NO. 334** – Sprint Nextel Corporation application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at 186 Black Rock Turnpike, Redding, Connecticut.

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Please publish the attached notice as soon as possible, but not on Saturday, Sunday, or a holiday.

Please send an affidavit of publication and invoice to my attention.

Thank you.

LAF





Daniel F. Caruso  
Chairman

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

### NOTICE

Pursuant to General Statutes § 16-50p (d), the Connecticut Siting Council (Council) announces that, on October 16, 2007, the Council issued Findings of Fact, an Opinion, and a Decision and Order approving an application from Sprint Nextel Corporation for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at 186 Black Rock Turnpike, Redding, Connecticut. This application record is available for public inspection in the Council's office, Ten Franklin Square, New Britain, Connecticut



Daniel F. Caruso  
Chairman

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

October 26, 2007

Thomas J. Regan, Esq.  
Brown Rudnick Berlack Israels LLP  
185 Asylum Street, CityPlace I  
Hartford, CT 06103-3402

RE: **DOCKET NO. 334** – Sprint Nextel Corporation application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at 186 Black Rock Turnpike, Redding, Connecticut.

Dear Attorney Regan:

By its Decision and Order dated October 16, 2007, the Connecticut Siting Council (Council) granted a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, maintenance and operation of a wireless telecommunications facility at 186 Black Rock Turnpike, Redding, Connecticut.

Enclosed are the Council's Certificate, Findings of Fact, Opinion, and Decision and Order.

Very truly yours,

S. Derek Phelps  
Executive Director

SDP/MP/laf

Enclosures (4)





Daniel F. Caruso  
Chairman

# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: [siting.council@ct.gov](mailto:siting.council@ct.gov)

Internet: [ct.gov/csc](http://ct.gov/csc)

**CERTIFICATE  
OF  
ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED  
DOCKET NO. 334**

Pursuant to General Statutes § 16-50k, as amended, the Connecticut Siting Council hereby issues a Certificate of Environmental Compatibility and Public Need to Sprint Nextel Corporation for the construction, maintenance and operation of a wireless telecommunications facility at 186 Black Rock Turnpike, Redding, Connecticut. This Certificate is issued in accordance with and subject to the terms and conditions set forth in the Decision and Order of the Council on October 16, 2007.

By order of the Council,

October 16, 2007

Daniel F. Caruso, Chairman